



# Decentralised Development in Remote Areas of the Simen Mountains, Ethiopia

Impressions from a Field Expedition to the  
Districts of Janamora, Beyeda, Adi Arkay  
(Tellem) and Debark 21 October to  
22 November 2004

IP2 Working Paper 1

Hans Hurni

2005

*dialogue*





# **Decentralised Development in Remote Areas of the Simen Mountains, Ethiopia**

**Impressions from a Field Expedition to the  
Districts of Janamora, Beyeda, Adi Arkay  
(Tellem) and Debark 21 October to  
22 November 2004**

**Hans Hurni**

**2005**

## **Impressum**

Author: Hans Hurni, Centre for Development and Environment (CDE), University of Berne, Switzerland

Citation: Hurni H. 2005, Decentralised development in remote areas of the Simen Mountains, Ethiopia. Dialogue Series, NCCR North-South, Berne, 47 pp., with map.

Available from: [www.nccr-north-south.unibe.ch](http://www.nccr-north-south.unibe.ch)

Photographs by: Hans Hurni (unless otherwise indicated)

Layout by: Brigitte Portner, CDE

Map by: Kaspar Hurni, CDE

Cover Photo: Panoramic view (about 90°) from Chiwa Mountain eastward towards Aber and Chinfera Mountains in the far northeast of the Simen Mountains. H. Hurni, 10 November 2004.

# Contents

	Glossary and abbreviations	vi
	Summary	vii
	Acknowledgements	viii
<b>1</b>	<b>Background and purpose</b>	<b>1</b>
<b>2</b>	<b>Impressions along the route</b>	<b>5</b>
2.1	Mesarerya – Kossoch Mountain Range (24–26 October 2004)	5
2.2	Mekane Birhan Town (25 October)	6
2.3	Mesheha Valley (27 October)	7
2.4	Debre Gennet Village (28 October)	8
2.5	Dilyibza Town (28 October)	8
2.6	Digdigit and Beyeda Villages (29 October)	9
2.7	Debir Maryam Monastery (30 October)	10
2.8	Matiba Village (31 October)	11
2.9	Sabra Village (2 November)	12
2.10	Tiber Village (3 November)	13
2.11	Hay Mountains (4 November)	14
2.12	Gilbena Town (7 November)	14
2.13	Dabiya Village (8 November)	15
2.14	Zej Village (9 November)	16
2.15	Adigrad Town, Abera and Kosso Villages (11 November)	17
2.16	Arkwasie Village (12 November)	17
2.17	Mount Bwahit (12 November)	18
2.18	Gich Village (13–22 November)	19
<b>3</b>	<b>Development issues and recommendations</b>	<b>23</b>
3.1	Road access	23
3.2	Trail improvements	28
3.3	Soil and water conservation	28
3.4	Water development	30
3.5	Nature conservation	31
3.6	Education and health	39
<b>4</b>	<b>Conclusions</b>	<b>40</b>
	References	43
	List of Persons Contacted	44
	Map 1: 250,000	47

## Glossary and abbreviations

Amba	Flat-topped mountain (amharic)
ARARI	Amhara Regional Agricultural Research Institute
EPA	Environmental Protection Authority
EPRDF	Ethiopian People's Revolutionary Democratic Front
Erica	Indigenous high altitude tree (Erica arborea; Amharic Asta orin Simen wuchena)
ESTC	Ethiopian Science and Technology Commission
FFW	Food-for-Work
GANRS	Government of Amhara National Regional State
GEF	Global Environment Facility
Kebele	Community (amharic)
MoARD	Ministry of Agriculture and Rural Development
NCCR North-South	National Centre of Competence in Research North-South
NGO	Non-governmental Organisation
PCU IDP	Project Coordination Unit Integrated Development Programme
RCO	Regional Coordination Office
SARPI	Swiss Association of Research Partnership Institutions
SCRIP	Soil Conservation Research Programme
SDC	Swiss Agency for Development and Cooperation
SMBS	Simen Mountains Baseline Study (1994)
SMNP	Simen Mountains National Park
SMS 2004	Simen Mountains Study 2004
SNSF	Swiss National Science Foundation
SWC	Soil and Water Conservation
Terara	Mountain (amharic)
TLU	Tropical Livestock Unit
Walya	Walya Ibex
Wereda	District (amharic)
WWF	World Wide Fund for Nature

## Summary

The main purpose of the one-month field expedition on foot and mule-back was (a) to study the current status of remote areas of the Simen Mountains and possibilities for their future development; and (b) to examine possible measures for ensuring wider distribution of the Walya ibex population in its former habitat in Simen.

Having visited a major part of the expedition area in 1974-76 and again in 1993, the author was deeply impressed by the visible changes in development that have taken place in the past 10 years. Despite its remoteness, the region has benefited from the construction of numerous schools, clinics, springs, trails and roads, and last but not probably most important, the visible impact of soil and water conservation measures. Decentralised development has thus become a fact in Ethiopia, not just a vision. Although much work remains to be done, particularly in relation to environmental protection, soil and water conservation, as well as infrastructure and health, the author is confident – in view of the motivated leaders he met along the route, as well as interviews he conducted with numerous peasants who are apparently taking their fate into their own hands – that both will further work together towards sustainable development. While road access and re-population of wildlife in their former habitats remain a major challenge, it is hoped that appropriate external support can be mobilized to strengthen local efforts at Kebele (community) and Wereda (district) levels around the Simen Mountains World Heritage Site.

## Acknowledgements

The field expedition and this report are part of the Swiss National Centre of Competence in Research ‘NCCR North-South’ research programme ‘Mitigating syndromes of global change’, which is executed by the Swiss Association of Research Partnership Institutions (SARPI), implemented by the Swiss National Science Foundation (SNSF), and co-funded by SNSF, the Swiss Agency for Development and Cooperation (SDC), and the participating research institutions.

In preparation of the field expedition, H.E. Mr. Addisu Legesse, Deputy Prime Minister of Ethiopia, Mr. Yosef Retta, then President of Amhara Regional National State (ARNS), Dr. Getachew Alemayehu, A/Director General of the Amhara Regional Agricultural Research Institute (ARARI), Mr. Fasil Ayehu, Tourism Commissioner of ARNS, and Mr. Mulugeta Woubshet, Head of the Amhara National Regional State Parks Development and Protection Authority, all supplied valuable inputs and made numerous suggestions for observation and follow-up during the field expedition.

During fieldwork all local farmers and authorities encountered by the expedition team were extremely helpful in all respects. This included Wereda and Kebele Association representatives, teachers, priests, and extension agents, as well as village elders and the population at large.



**Figure 1:** Camping near Dabiya Kidis Yared Church, 8-11 November 2004, with a view towards Aber Mountains.

The author is particularly indebted to the numerous persons who facilitated his fieldwork. Special thanks go to the team of Ethiopians who accompanied the expedition, namely Mr. Getinet Akalu, Mr. Gelaye Tsega, and Mr. Abuhay Beze, all of whom were long-term collaborators, from 1975 to 1989, in the Pro Simen Foundation, in a boarding house for children of scouts in the Simen Mountains National Park (SMNP) in Debark, and who assisted as guide, organiser and cook on the expedition. Thanks also go to Mr. Setargew Mesfin, now a farmer in Beyeda Village, who worked for the author from 1975 to 1977 as a helper in Gich Camp, and who accompanied him, as did his son Mr. Mukat Setargew. Finally, thanks go to Ms. Yemisrach Nadew from Debark, who worked as a cook and assistant guide, as well as to Mr. Maregn, a scout from Chennek Camp, who accompanied the group as guard and helper, and to two persons from Gich Village, both named Mr. Kedir, who worked as drovers for the mules and horse. Special thanks also go to the Simen Mountains Study (SMS) team, particularly Dr. Eva Ludi, who visited the author and accompanied him for 5 days, and to Ms. Katrin Bircher, who joined the expedition team in Beyeda to do her field study.

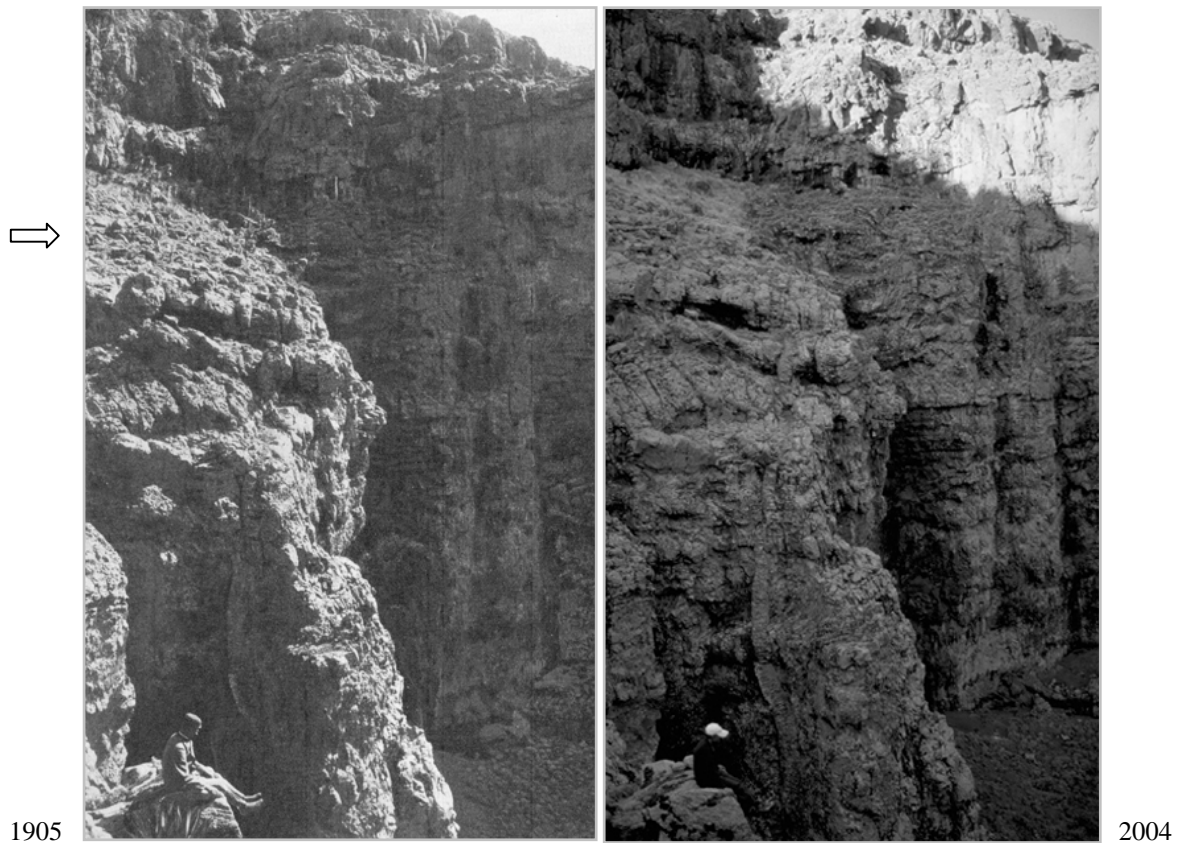
In Gich Camp, the following persons are additionally acknowledged: Mr. Mengesha Zewdu, former employee of the author in the Soil Conservation Research Programme from 1981 to 1987, who supported the members of the SMS team; the scouts of SMNP; Prof. Dr. Bernhard Nievergelt, who has worked in Simen since 1965, and who supervised the total Walya count carried out on 19 and 20 November 2004; and the rest of the study team itself, namely Ms. Regula Schild, Ms. Julia Grünenfelder, Mr. Marcel

**Figure 2:** Centennial comparative view of the uppermost southern cliff of Mesarerya Mountain (4353m asl). On the left, a photograph taken by F. Rosen in April 1905 (Rosen, 1907, pp. 447). Note that on the recent photograph of 19 November 2004, grasses have developed on gentler parts of the cliff at about 4200 m asl, the former boundary between the afro-alpine belt and the frost detritus belt (cf. Hurni, 1982). Such grass was absent in 1905 and until about 1976 due to a cooler climate (see  $\Rightarrow$ ).

Budmiger, Mr. Michael Walter, Mr. Solomon Abegaz, Ms. Bozena Tegegne, Mr Girmachew Siraw, and Mr Berhanu Gebre Mohammed, most of them being Masters' candidates at different universities. During the Walya count, additional support came from Mr. Mulugeta Woubshet, Head of the Amhara National Regional State Parks Development and Protection Authority in Bahr Dar, and Mr. Leykun Abune, Head of the Austrian Project Coordination Unit in Gonder.

Last but not least, the support of Mr. Berhanu Debele, coordinator of the NCCR North-South in the Horn of Africa, Mr. Derese Gebre-Wold, an assistant in the NCCR North-South and a tour operator for the trip to Simen and back to Addis Abeba, and Mr. Amare Bantider and Mr. Birru Yitaferu, PhD candidates in the programme, is particularly acknowledged here.





# 1 Background and purpose

About 10 years before this field expedition, in 1994, an Ethiopian-Swiss team of nearly 60 persons (researchers, assistants and helpers) had carried out an extensive study in 30 villages inside and surrounding the Simen Mountains National Park and World Heritage Site, known as the Simen Mountains Baseline Study (SMBS). The results of this study were published in book form (Hurni and Ludi, 2000a), as well as in recommendations developed jointly with authorities of the Amhara National Regional State (Hurni and Ludi, 2000b). While a number of these recommendations have been taken up in the mean time, some of them are still pending, namely (a) relocation and shortening of the road between Debark and Sankaber, and possibly also between Chennek Camp and Mount Bwahit, (b) the proper management of tourism, and (c) a solution to the problems of human and livestock pressure inside the Simen Mountains National Park, particularly in the Jinbar Valley (e.g., Gich village) and in some lowland villages along the escarpment in the north of the SMNP. In addition, several new challenges emerged, such as (a) road access to additional areas in Simen, particularly to Beyeda Wereda (district) and the area of Tellem in Adi Arkay Wereda, (b) identification of potential wildlife conservation areas outside the National Park, and (c) questions of rural development and natural resource management in Simen as a whole.



**Figure 3:** Outer view of Deresge Maryam, the church near Mekane Birhan, where Emperor Tewodros was crowned in 1855.



**Figure 4:** Blind man crossing a gully near Deresge Maryam. He is having excellent knowledge of the environment of the monastery, which allows him to walk as fast as a seeing person on this difficult trail.

The Amhara Regional Agricultural Research Institute (ARARI), in collaboration with the Amhara Parks Authority, in 2004 decided to initiate a further study, and invited the Swiss National Centre of Competence in Research (NCCR) North-South to partner in this initiative. Dr. Eva Ludi of the NCCR North-South developed both the concept and the approach of this partnership, called Simen Mountains Study 2004 (SMS 2004), and conducted a field campaign between September and December 2004 involving 15 Ethiopian and Swiss experts and graduate students. The field expedition described here is part of this SMS 2004, and is based on previous involvements of the author in the Simen Mountains, as an MSc student (1974-1975), a Park warden seconded to SMNP by WWF (1975-1977), a PhD candidate (1977-1980), a UNESCO consultant for developing a management plan and monitoring changes in Simen on behalf of the World Heritage Centre (since 1981), and a leader of the Simen Mountains Baseline Study (1994-2000). The field expedition took place from 21 October (arrival in Gich Camp) to 22 November 2004 (departure from Gich Camp) and included a 21-day expedition on foot and mule-back to the Weredas of Janamora, Beyeda, Adi Arkay (Tellemt area), and Debark. Preparatory discussions were held with a number of concerned authorities with broad knowledge of the situation in Simen (cf. list in Annex), including H.E. Mr. Addisu Legesse, Deputy Prime Minister of Ethiopia (meeting of 14 October 2004), and H.E. Mr. Yosef Retta, then President of Amhara National Regional State (19 October 2004).



**Figure 5:** Looking back up to Kossoch Ridge on a challenging descent to Mahaye Village, on a trail which is barely passable for larger pack animals.



**Figure 6:** Impressive view from Mahaye Village in the Mesheha Valley, with its new clinic and heavily pruned Acacia trees in fields at 2450 m asl.



**Figure 7:** Girl carrying local beer (Korefe) to her father and brothers harvesting barley high on the cliffs above Mahaye Village.

Based on the above discussions, in addition to assisting the Ethiopian-Swiss team of researchers in their work (cf. Ludi, 2005), the following objectives were set for the field expedition:

- (a) to study the status and possibilities for development of remote areas of Simen, and
- (b) to look into the possibility of reintroducing Walya ibexes into their former habitats in Simen.

The methodology for the field expedition is oriented around the sustainable development research framework, and in particular the Sustainable Development Appraisal (SDA) described in Hurni and Ludi (2000). The SDA analyses current status of actors and natural resources in a given spatial context; it assesses dynamic changes of actors, institutions and natural resources; it appraises development needs, options and constraints in a negotiation process with involved stakeholders, and defines possible pathways towards sustainable development.

Although the present field expedition could not carry out the full SDA approach, it nevertheless used a set of methods that are otherwise also applied in the SDA approach, although in a highly incomplete and intuitive manner. Methods applied ranged from deductive expert opinion relating to natural resource management and decentralisation; inductive participant observation when accompanying officials, farmers, technical



**Figure 8:** The Village of Debre Gennet in Beyeda Wereda, with numerous indigenous trees and recently constructed stone terraces. This appears to be a community where natural resources are rather sustainably managed.

specialists (teachers, extensionists), or religious leaders; semi-structured interviews with these actors; theme-oriented group discussions; and photographic monitoring.

During fieldwork the author was extremely well supported by Mr. Getinet Akalu, Head of the Walya Guide Association in Debark and his team. All authorities in the Weredas visited were very open and supportive and gave their best to provide the author with all necessary information and logistical support.

Please note that all local names quoted in this report are shown on the satellite and topographic map folded in at the end of the document. The Amharic to English transliteration of names and locations follows the system developed by the Ethiopian Mapping Authority.



**Figure 9:** Stone terraces of excellent quality have recently been constructed in the area between Assika and Dilyibza Town, thereby conserving water and stabilising cultivated land.

## 2 Impressions along the route

### 2.1 Mesarerya – Kossoch Mountain Range (24–26 October 2004)

The Mesarerya mountain range was recently included in the Park because nearly half of all Walya ibexes had been observed to occur in this area in 1994 (Hurni and Ludi, 2000a). Subsequently, a camp was established in Sebat Minch (4200 m asl) by SMNP for better monitoring and guarding. However, heavy pressure from human land use (livestock grazing) and particularly also from wildlife persists, and one ibex was found dead in this area in October 2004 due to parasite infections (Shiferaw et al, 2004), while four more were reported dead in the same area. The total count of 19-20 November 2004 again showed that the Walya population has considerably increased in this area, with the result that the habitat is now under too much pressure. Immediate and urgent action is needed, including vaccination of livestock as recommended in the report by Dr. Shiferaw, and even more importantly, identification of new Walya habitats, particularly the opening up of the Arkwasiye ‘wildlife corridor’ towards Silki - Abba Yared area (see 3.5.), as this will give the ibexes an opportunity to move freely there from the Bwahit area. Comparison of grass vegetation on Mesarerya with a 100-year reference showed that altitudinal limits have considerably been elevated due to global warming (Fig. 2).

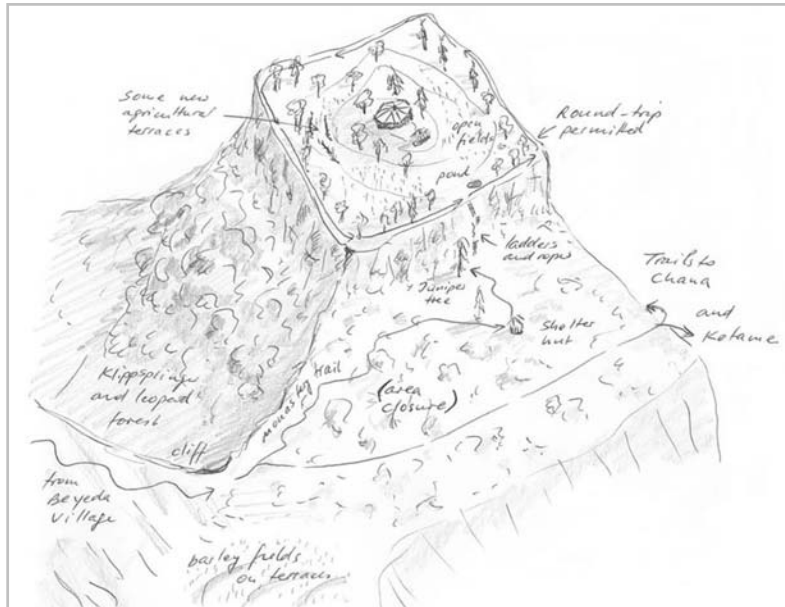


**Figure 10:** Panoramic view (about 90°) of the Debir Maryam Monastery in Beyeda Village. This holy place, in a most splendid natural and human setting overlooking the Tekeze Valley, has been guarded by monks over the centuries.

## 2.2 Mekane Birhan Town (25 October)

The town is developing considerably, particularly as a result of road access since 2000, with a steadily increasing number of trucks and cars arriving every day. This, in addition to the rather heavy traffic due to tourism, puts heavy pressure on the Park, and the realignment of the Debark-Sankaber road has thus become a top-priority issue for the World Heritage Site. Concrete proposals were discussed with representatives and authorities of the regional government already in 2000 (cf. Hurni and Ludi, 2000b), and it was agreed to construct a shortened alignment between Sawre and Sankaber Camp (cf. map).

A brief investigation in the direction of the newly constructed rural trail/road to Serebar Bale-Ighziabher, a very attractive rock-hewn church towards the Belesa area, showed that alternative access to Mekane Birhan through Gonder – Maksegnit – Guhala – Mena River would be very challenging and would not shorten the distance to Gonder; hence it would be too costly. In discussions of this subject, Mr. Honelign Sahlu, Janamora Wereda Administrator, proposed studying an alternative alignment from Debark through Beles and Inchetkab Villages to Mekane Birhan, which has not yet been studied in detail by civil engineers (cf. proposed alignment on map in back folder). About 2 kilometres north of Mekane Birhan lies the ancient church of Deresge Maryam (Fig. 3; 4).



**Figure 11:** Debir Maryam Monastery on an Amba near Beyeda Village. Visit on 30 October 2004.

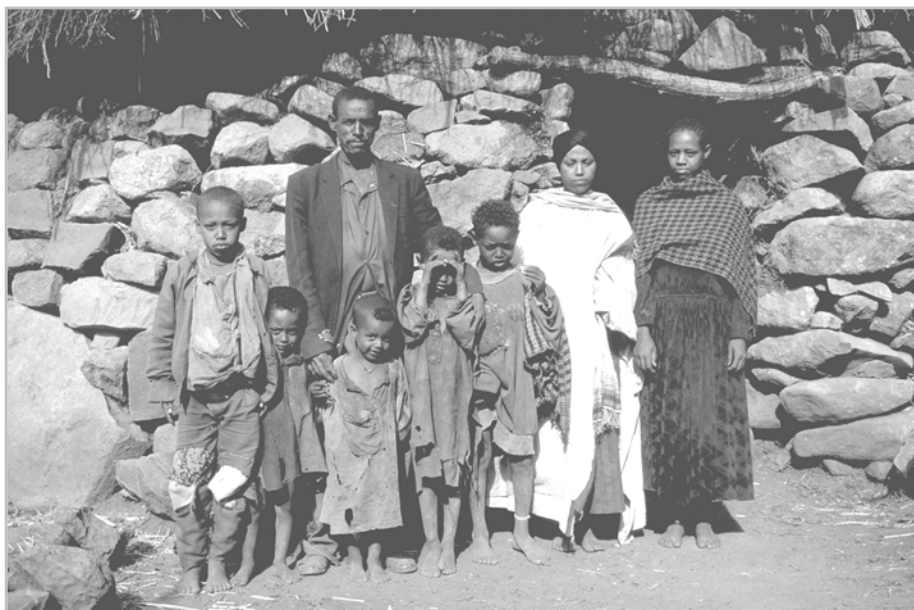


**Figure 12:** Daring ascent to the Debir Maryam Monastery from below the uppermost cliff.

### 2.3 Mesheha Valley (27 October)

The team crossed Mesheha Valley along the Mekane Birhan – Kossoch Ridge – Debre Gennet route. While road access to Debre Gennet would be an option, the descent from Kossoch to Mahaye (new clinic) is clearly too steep for road construction (Fig. 5; 6). Hence the designed Mesarerya – Amdir – Mikana – Ras Dejen Pass – Dilyibza alignment remains the only viable option (cf. map). The author noted that numerous schools and clinics have been constructed in a number of villages, and that soil and water conservation was introduced in some locations. Given the high degree of degradation of forests and soils in the Mesheha Valley, however, much more will have to be done in future, and on some of the steepest parts of the cultivated land, permanent agriculture will not be possible in the long term, as total soil degradation may be unavoidable. The obvious hardship in daily life affects men and particularly women (cf. Fig. 7).

Tragically, on the ascent from the river towards Beyeda, one of the pack mules lost control and fell into a gorge, where it was killed immediately on impact. This shows the importance of trail improvement, which can now be observed in many parts of Simen, particularly in Beyeda Wereda. As a consequence of this accident, the team had to convert the only riding mule into a pack mule for most of the rest of the expedition.



**Figure 13:** Mr. Setargew Mesfin and his family in Beyeda Village. Although demographic transition is underway, the number of children in Beyeda, as in the whole of Ethiopia, exemplifies the huge challenge and need to emphasise education, as half of the population is less than 16 years old.

## 2.4 Debre Gennet Village (28 October)

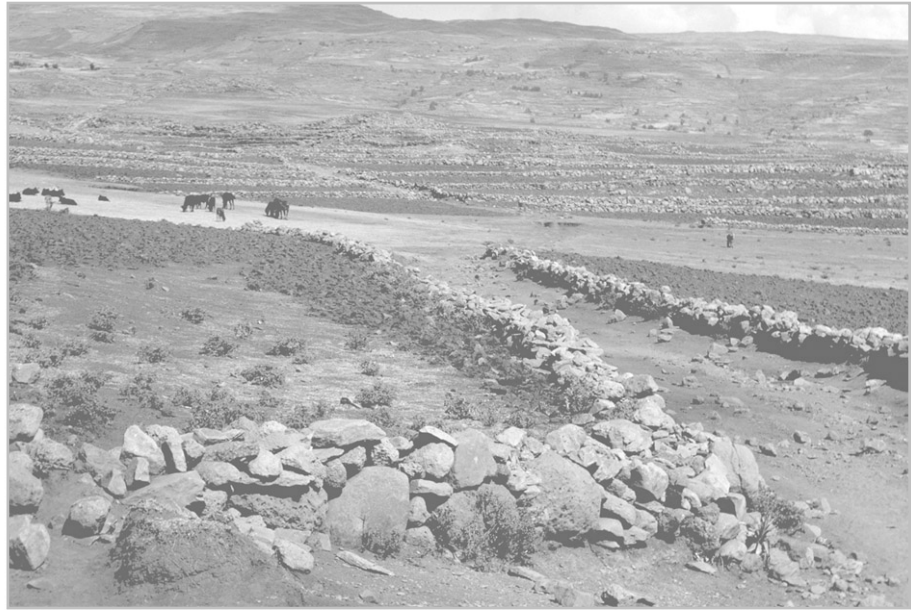
Upon arrival in the village, coming over the escarpment at 3000 m asl from Mesheha Valley, the foremost visible changes apparent in this gentle landscape were: many Juniper trees at various stages of regrowth (Fig. 8); visible impacts resulting from soil and water conservation measures, manifested by solid, well-constructed stone terraces (Fig. 9); a school; a clinic; spring development; and much-improved local trails.

This is a very positive sign of recent development, which was repeatedly manifested throughout Beyeda Wereda, providing a stark contrast to the author's earlier impressions of the same area some 30 years and even 10 years ago. Assika Village on the road to Dilyibza gives the impression of a newly emerging town. Due to a lack of eucalyptus trees, however, people are using (too much) Juniper wood for cooking.

## 2.5 Dilyibza Town (28 October)

The capital of Beyeda Wereda is located at 3200 m asl, and is also developing considerably (administration, hospital, schools). The Wereda Council under the leadership of the Administrator, Mr. Getinet Tsegay, gave the impression of a very dedicated team with great motivation to develop the Wereda. Beyeda, which has most probably been inhabited for more than 2000 years (according to Greek reports at that time by Cosmos Indicopleustes; cf. Kirwan, 1972), had been very severely degraded particularly at elevations between 3000 and 3500 m asl, and thus also in the



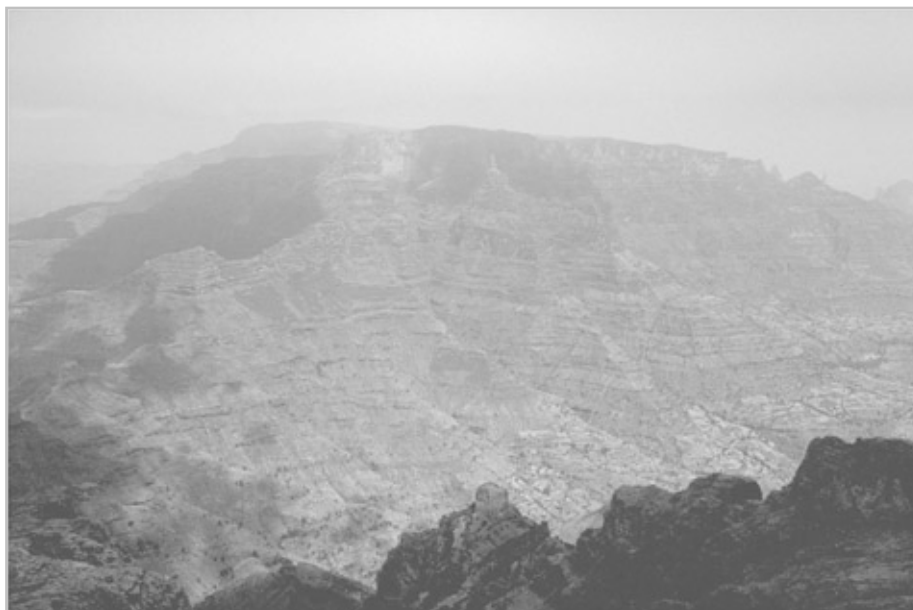


**Figure 14:** Careful soil and water conservation at lower elevation in the Matiba Kebele (community) Association. Areas higher up have not yet been treated, however.

surroundings of Dilyibza. To the author's great pleasure and surprise, major emphasis has been given to soil and water conservation in this area in recent years, including stone terraces of excellent quality, eucalyptus tree plantations, and protection of indigenous woodlands.

## 2.6 Digdigit and Beyeda Villages (29 October)

On the trail from Dilyibza to Digdigit and Beyeda Villages the author was accompanied by Mr. Addis Melkie, a member of the Wereda Council, who explained the new government policy and strategy of natural resource management and land certification, including mechanisms of evaluation and control. This new approach to natural resources management in the Amhara Region, in the author's opinion, promises to have great potential for a major breakthrough in sustainable land management, provided that it is carefully and respectfully implemented. The dedication found among political leaders in this most remote Wereda in Ethiopia showed that a big change in decentralised rural development has indeed been introduced recently, and will hopefully be successfully continued. Another sign of this change was observed in the number of new schools and springs developed in the past few years, such as in Digdigit Village, where teachers set a good example of improved housing, hygiene, and development-oriented thinking. From Digdigit the team proceeded to Beyeda Village, where a local farmer, Mr. Setargew Mesfin, whom the author had known for 30 years, lives with his wife and 7 children (Fig. 13).



**Figure 15:** View from Mount Lich (Weynobar) (4465 m asl) towards Hay (Wofa) Mountain (4142 m asl) and into the Segenet Valley, probably the most remote area in Ethiopia. Recent development is also visible here (schools, clinics, soil conservation).

## 2.7 Debir Maryam Monastery (30 October)

Thanks to a letter from Mr. Getinet Tsegay, Wereda Administrator, followed by 4 hours of negotiations with Abeminnet Aba Melaku Aberra, including a donation of Birr 150 and a visual test of their masculinity, Mr. Getinet Akalu and the author were allowed (as the first outsiders, i.e. not from Beyeda Village) to ascend to the monastery of Debir Maryam (3000 m), an isolated Amba (flat-topped mountain) situated in front of Beyeda Village and overlooking the Tekeze Valley (Fig. 10).

Prior attempts by the author to visit the monastery in November 1974, February 1976, and March 1993 had all failed; hence his reverential joy was all the greater when he finally succeeded in gaining access to the monastery. The monastery houses five monks and consists of a church, some houses, and an ox and some farmland, on which two new terraces were recently constructed. Numerous Juniper trees grow around the church on the top of the Amba, but most of them have dried tips, probably due to shallow soils, insufficient water, and perhaps drier climatic conditions. A 40-m vertical cliff makes the monastery virtually inaccessible, except for one section where wooden ladders have been mounted, and where a 5-m rope is used to traverse an overhanging section of the cliff (Fig. 12). Helpers in the monastery operate this rope. Climbing to the monastery is a very daring enterprise; it required all our courage, but was definitely worth the effort (Fig. 11).



1976

**Figure 16:** “Historical” panoramic view (about 90°) photographed by the author in February 1976, looking from the Weynobar Pass towards forested areas above Sabra Village and the Kidis Yared Mountains in the background to the West. A current study by Katrin Bircher will evaluate the difference in land cover since then, which may be less than anticipated.

## 2.8 Matiba Village (31 October)

On the ascent towards the Tefew Leser and Lich (Weynobar) Mountains through the Kebele of Matiba, impressive achievements in soil and water conservation (SWC) were again visible, at least at altitudes between 3000 and 3500 m asl (Fig. 14).

Higher up, unfortunately, no SWC work has been initiated to date, probably because soil degradation is less advanced owing to more recent colonisation of the area (probably less than 100-200 years ago). The major soil colour change on the satellite photo at around 3500 m asl (see map) is an evidence of such difference in soil degradation at that altitude, not only in Beyeda but throughout Simen. Nevertheless, the need for soil and water conservation is even more imminent in this upper belt, as current rates of soil erosion may be as high as on already degraded areas. The overnight camp was established in Ambo Village, near Weynobar Pass. Residents in this agriculturally marginal area were much more reserved in response to questions from the team; they were rather circumspect and much less open than the rest of the Beyeda population. Virtually no trees exist any more in this area, and residents cut wood on the Sabra side of the mountain range, where some *Erica* forests remain (Fig. 16).

From Matiba (Ambo), part of the team climbed Mount Lich (4465 m asl), the second highest mountain in Ethiopia, situated not far from Ras Dejen (4533 m asl), the highest peak in Ethiopia. From Mount Lich there was a very good view down into the Segenet



**Figure 17:** Panoramic view (about 60°) from the ‘improved’ Sabra – Tiber trail, with remnants of Juniper trees and some newly introduced terraces on cultivated land along the cliffs (3000 m asl).

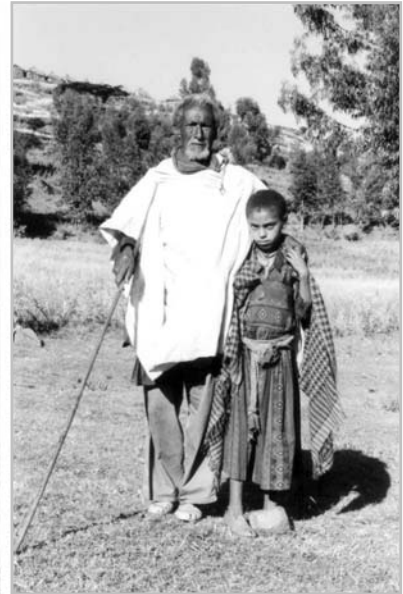
Valley, a tributary of the Tekeze River, and the Hay Mountains, situated on the opposite side (Fig. 15).

## 2.9 Sabra Village (2 November)

Sabra Village has recently been developed into a small centre, with a school, a clinic and spring development. Soil and water conservation activities are in progress near the school, but much further activity is required. Mr. Getinet Akalu and the author had a long discussion with the Kebele Council, chaired by Mr. Chekole Mengistu, on development issues. According to the council members, Sabra Community is experiencing high pressure on land resources, expansion of cultivated land on steep slopes, and severe problems of overgrazing. Nevertheless, a forest area, which the author had already mapped in 1976 (Fig. 16), still exists today, but is under heavy wood-cutting pressure. This forest would be highly suitable for the re-introduction of Walya ibexes. Walya were reported to have occurred during the period of Haile Selasse’s rule (1930 - 1974), and some people claim to have seen ibexes recently. However, most participants have not seen any animals during the last 30 years. Provided that the forested area and the north-facing slopes above can be kept free of human interference, Walya ibexes could be relocated to the Lich (Weynobar) area, if foreign assistance can be mobilised for that purpose. Such measures would require development support to the concerned Kebeles.



**Figure 18:** Carriers of harvested crops and wood along the Sabra – Tiber trail.



**Figure 19:** Mr. Negash Gebre - Medhin and his granddaughter posing in Tiber Village for a photograph, which the author sent by post to his brother Aragaw Gebre-Medhin who lives in Debark.

In the evening, Dr. Eva Ludi arrived from Gich Camp and joined the expedition team for the next couple of days, while Mr. Getinet Akalu had to return to Debark in order to guide a group of tourists to Mount Ras Dejen.

The trail from Sabra to Tiber follows a natural terrace at about 3000 m asl and leads through numerous gorges where landslides and gullies require constant maintenance (Fig. 17, 18). Natural juniper trees are scarce and daily life is hard, particularly for vulnerable groups such as women, old people and children (Fig. 19).

## 2.10 Tiber Village (3 November)

Tiber Village (Fig. 21) is situated on the northern geologic terrace below the Hay Mountains (highest peak: Mount Wofa, 4142 m asl) at an altitude of about 3000 m asl above the Bembiya Valley. Again, a modest centre has been developed in Tiber, providing basic services such as a school, a clinic, and spring development. Tiber Maryam is a very impressive church, having numerous very old trees in its church grove. The woodlands below the church are heavily overused for firewood (Fig. 26).



**Figure 20:** Traditionally terraced cultivation land on the steep ascent from Tiber Village to Hay Mountains.

### 2.11 Hay Mountains (4 November)

Part of the team climbed from Tiber Village over a steep ascent to the Hay Mountains. Extremely steep slopes are cultivated above Tiber, as in all of Tellem (Fig 20; 22). These agricultural areas may produce enough for one generation, but will be totally degraded thereafter. On the northern face of Hay Mountains only few forests prevailed (Fig. 23). This is a typical manifestation of non-sustainable development, which even soil and water conservation measures will hardly help to avert, as the area is too steep for continuous agricultural production. Indigenous terracing exists, but will not be sustainable due to slope instability (cf. Fig. 22). The villages on the Hay Plateau above Segenet Valley are probably the most remote parts of Beyeda Wereda (Fig. 24). From the south-eastern escarpment the team had an impressive view towards Tekeze River, including the recent dam construction site near the confluence of Segenet River and Tekeze River (Fig. 25). From the highest peak of the Hay range, Mt. Wofa (4142 m asl), a view down into Segenet Valley was possible, although fog prevailed otherwise on that day.

### 2.12 Gilbena Town (7 November)

This town is situated slightly above Bembiya River (Fig. 28) at about 2000 m asl (Fig. 29 to 32). It is the former capital of Tellem Wereda, which has recently been split into two parts and merged with the Weredas of Adi Arkay and Beyeda. Good infrastructure exists (Fig. 31), and new soil and water conservation measures were introduced (Fig.



**Figure 21:** View of Tiber Village (2850 m asl) from above.



**Figure 22:** Difficult ploughing on traditional “terraces” on the ascent from Tiber Village to the Hay Mountains.

29), but the town lacks road access, which would now be possible from the new dam site at Tekeze River, or alternatively, Fiyel Wuha Town, both in Region 1 (Tigray National Regional State).

East of Gilbena, above Ateta Village, there is a very steep ascent to Chinfera, an impressive mountain tower with three peaks overlooking Tellem, with agriculture on a geologic terrace step at 3000 m asl (Fig. 41). However, the team did not climb to Chinfera, unfortunately, but returned to Gilbena. According to Mr. Aberra, head of the town, the population of Tellem has not easily digested the loss of Wereda status.

### 2.13 Dabiya Village (8 November)

From Gilbena the team crossed a steep ridge at about 2600 m asl, then descending into Ateba Valley to reach the town of Adimihret situated at 2000 m asl (Fig. 33), from where Dr. Eva Ludi returned directly via the villages of Mirka and Arkwasiye to Gich Camp in the Park, while the remaining team crossed the river and climbed via Fanya Village (Fig. 34) towards Dabiya Village (Kidis Yared Church), and reaching this very beautiful place situated at about 3000 m asl in the evening (cf. Fig. 1; Fig. 35, 36). Dabiya Village is situated on the watershed boundary of Ateba Valley and on the western end of the Aber Mountains, a region that was crossed by most earlier travellers to Ethiopia in past centuries, including the Rosen expedition in 1905 (Rosen, 1907). Dabiya has an obvious shortage of grazing land, but a still considerable diversity of trees (over 10 species counted in only a few woodlots). Local peasants received the



**Figure 23:** Panorama (about 90°) of the northern face of the Hay Mountains (3400 - 3900 m asl), taken at about 3400 m asl.

team in friendly fashion, e.g. Mr. Abuhay Arega and Mr. Ayenew Yewhalaw, who proudly showed the author his self-constructed terraces on Chiwa Terara (Mountain) (Fig. 37). From there, a splendid view of the region was possible (Fig. 38 and front cover of this report).

## 2.14 Zej Village (9 November)

This village is situated in the centre of the Aber Mountains. In 1905 it was identified by the Rosen expedition as “Guancua”, which is an obvious error, probably due to a translation problem. The author was able to ‘retake’ three photographs taken by Rosen on 25 April 1905 (Fig. 39-41); on one he was even able to identify the same *Acacia* and *Olea* trees that existed 100 years ago and had not been removed in the mean time except for one branch! Major changes in the past 100 years, as noted by comparison with the photograph of 1905, were: development of a school, an agricultural centre and some agricultural terraces, and very recently, the ploughing of the steepest slopes of Aber Mountain (again probably sustainable only for a very short period in future due to soil destruction) (cf. Fig. 39).

In the early afternoon, Mr. Birrara Aytegeb and his wife invited the visitors to coffee in their house near the church (Fig. 42). Birrara reported to have known Mr. Addisu Legesse personally in the 1980s, and to have visited him again in Bahr Dar in 1996. Note in Figure 42 that his house has an understory, constructed as protection against air





**Figure 24:** Panorama (about 90°) of Hay ‘Plateau’ towards the east at around 3400 m asl.

attacks during the Derg Regime, when the Aber area was a hiding place for guerrillas in northern Ethiopia.

## **2.15 Adigrad Town, Abera and Kosso Villages (11 November)**

The highland part between Abera and Dula villages, at altitudes from 2900 to 3100 m asl, is heavily cultivated, with less soil and water conservation than was seen in Beyeda Wereda (Fig. 43-45). The author heard of attempts to construct a rural road from Adi Arkay to Degaro (completed), and onwards to Abera Village in the highlands (a 1500 m ascent!), and further to Adigrad (Ternasha) Town.

## **2.16 Arkwasiye Village (12 November)**

Overnight was spent near Kosso Mikael church, and on the next morning, on the trail to Arkwasiye Town, the author was able to relocate four more photographs taken by F. Rosen in 1905 (Fig. 46-49). A comparison with 2004 showed that the upper tree line of Erica forests is found today about 150 m higher up than in 1905 and until at least 1966. This again indicates that the climate has been warmer by about 2°C over the past 30-40 years. Near Arkwasiye Town, however, much of the Erica forests were removed for providing firewood to the new town (cf. Fig. 49).



**Figure 25:** Outlook from the Hay Plateau (3400 m asl) towards the east and into Tekeze Valley, where the Tekeze Dam is under construction at 1000 m asl (not visible on photograph).



**Figure 26:** Wood carriers on the steep ascent from Bembiya Valley to Tiber Village (2850 m asl).

Arkwasiye has been a market place between Ansiya Valley (Lori Village) and Mesheha Valley (Dibil Village), where people met on Saturdays, but where no permanent settlement existed before 1985 (Fig. 50). At that time, the EPRDF allowed people from Dibil to start a permanent settlement in Arkwasiye, which today has about 125 houses. Arkwasiye is situated at 3600 m asl in the bottleneck of a wildlife corridor (cf. map), where Walya ibexes until recently used to pass from Mount Bwahit to the Silki Mountains. This is no longer possible today because of the establishment of the permanent settlement, and it has even been reported that people in Arkwasiye recently chased back Walya ibexes trying to pass from Bwahit to Silki.

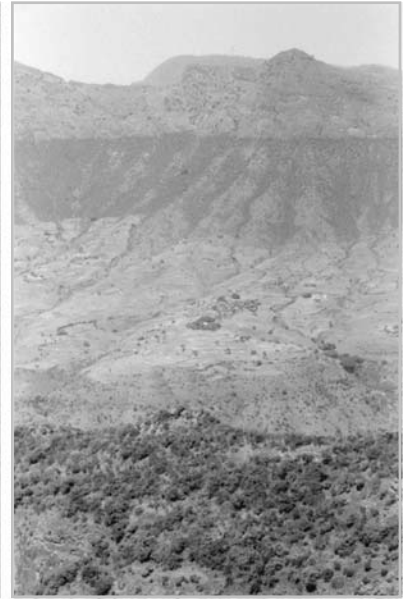
In view of the current problems with dead Walya ibexes in the Bwahit - Mesarerya area, the author strongly recommends that Arkwasiye be relocated, e.g. about 2 km eastward into Mesheha Valley, to a flat ground near the village of Dibil. This would open up important Walya habitats in the mountains of Silki, Kidis Yared, and as far as Ras Dejen, Weynobar and even Wofa. And this new location would also be a warmer place for the town of Arkwasiye, as it would be located at a lower elevation of about 3400 m asl.

## 2.17 Mount Bwahit (12 November)

During the massive shooting and chasing of Walya ibexes in most parts of the SMNP in the late 1980s, when the war between the Derg and the EPRDF was at its peak, a large group of Walya ibexes was chased into the Chennek - Bwahit - Mesarerya -



**Figure 27:** Threshing near Sabna (Maryam) in Bembiya Valley at 2100 m asl.



**Figure 28:** View of Gilbena Town from the descent opposite Tiber Village to Sabna Village.

Kossoch area, where about one third of all ibexes (140-175 animals) can be found today. As a consequence, this larger area has now also been included in the Park. Due to the fact that human movements are concentrated along the road, and thus human behaviour is predictable and perceived as harmless by the animals, the Walya ibexes have become rather well accustomed to road traffic as well as to human movements along the trail and road from Chennnek to Bwahit. However, livestock pressure appears to have become a major threat to the survival of the species. It will be of utmost importance to find undisturbed new habitats in Simen and open up wildlife corridors between them (see map and chapter 2.16 relating to Arkwasiye Town).

## 2.18 Gich Village (13–22 November)

Gich Village is situated in the centre of the Simen Mountains National Park. A charcoal sample, which was found buried in a primary soil accumulation at about 3300 m asl on cultivated land below Gidir Got on 16 November 2004, was dated using the  $^{14}\text{C}$ -AMS method, resulting in an age of  $585 \pm 45$  years (ETH-30657). It can thus be assumed that the Gich agricultural area was first deforested around 1400-1550 A.D., which would explain the extreme status of soil degradation (Fig. 51) and the very low agricultural productivity today. Gich area also constitutes a major disturbance to the World Heritage Site because over 900 tropical livestock units (TLU) are overgrazing the central part of the park, and agriculture has induced massive soil degradation on cultivated land in the Jinbar Valley. Although Gich Village is one of three villages that was recommended for voluntary resettlement by a high-level mission in 2000, no



**Figure 29:** View of Gilbena town (2100 m asl), the former capital of the former Tellemto Wereda, a centre which is difficult to make accessible by road.



**Figure 30:** Asechalu Firewu, the daughter of Hamsaleka Firewu Tilahun, of the police station in Gilbena.

action has been taken yet. Major habitats of the Walya ibex and the Simen fox (Ethiopian wolf) are becoming heavily degraded due to activities by the inhabitants of these villages (the other two being Debir in the Southern lowlands of SMNP and Adarmaz in the Western lowlands).

In Gich, the author rejoined the study team of Dr. Eva Ludi, which had just finished its second field working period and was preparing for the third and last, including the total Walya count planned for 18-19 November 2004 with the assistance of Prof. Bernhard Nievergelt, who had also arrived a few days earlier. Apart from his observations of the Walya ibex together with Mr. Derebe Deksiyos, Prof. B. Nievergelt noted that the grazing of domestic animals, particularly in the rich habitats within the upper ranges of the escarpment, has reduced the potential distribution of Walya ibex and Klipspringer, and is now facilitating the transfer of parasites from livestock to wildlife, equally to the Bwahit area. He also noticed that on the Gich Plateau few of the formerly common grass-rats were seen, from which he concluded that the disappearance of this species, an important source of food for the Ethiopian wolf, was presumably caused by disturbances created by domestic animals, as he later also observed in the Bwahit area. Prof. Nievergelt also noticed severe degradation of the alpine grasslands, with an expanding area covered only by short grasses instead of the long grass vegetation typical of this altitudinal belt.

During the Walya count of 18-19 November the author was responsible for the area around Mount Mesarerya. On 19 November 2004 he was able to observe a single large

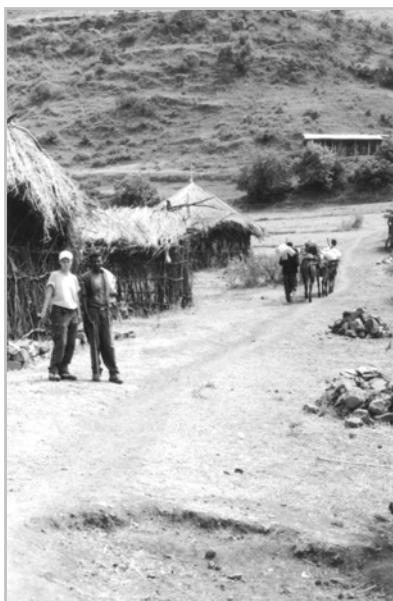


**Figure 31:** Expedition team camp, from 5-7 November 2004, under a Ficus tree at the Gilbena School.

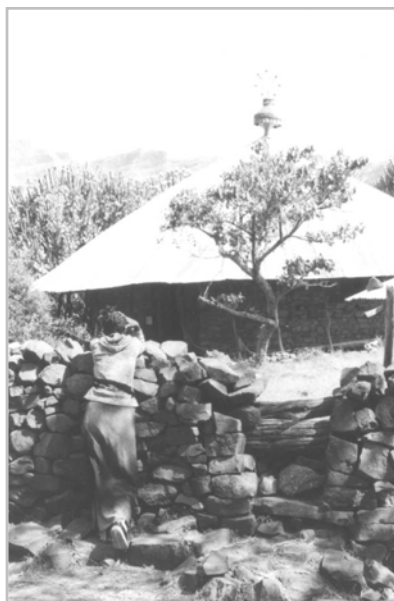
group of 47 ibexes on the southern cliff of Mesarerya. Such large groups are extremely rarely observed and indicate the extremely limited habitat area on that mountain, where there had not been any Walya ibexes prior to 1990.



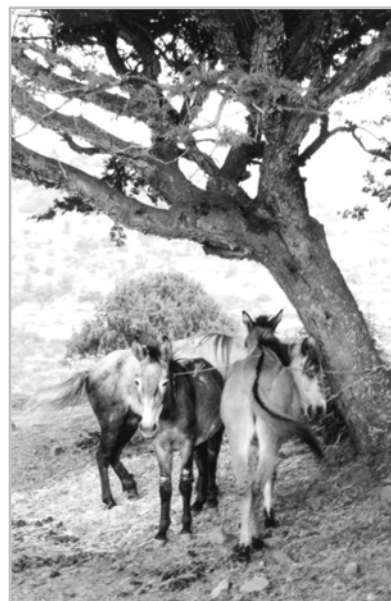
**Figure 32:** Panoramic view (about 90°) from Gilbena School towards Bembiya Valley and the Hay Mountains.



**Figure 33:** Short stop at Adimihret ‘town’ at 2050 m asl from where Dr. Eva Ludi and Jemal Hussen returned to Gich Camp, while the team continued towards the Aber Mountains.



**Figure 34:** Brief contemplation stop by Ms. Yemisrach Nadew at Fanya Giyorgis Church (2100 m asl) opposite Adimihret Town.



**Figure 35:** Pack mules and horse resting at the camping site in Dabiya.

### 3 Development issues and recommendations

#### 3.1 Road access

Despite the commendable success of Beyeda Wereda in inducing widespread, decentralised development even without road access to the district, the construction of an access road remains an essential condition for further development of this remote area. While Janamora Wereda benefits from the Debark – Sankaber – Chennek – Mekane Birhan road, both Mesheha Valley and Beyeda Wereda benefit only indirectly from the current road. Any road extension from Bwahit, however, must take into account that part of the current road leads through a World Heritage Site. Specific recommendations should thus be followed as listed below:

##### a. Current road section between Debark and Sankaber

A short-cut alternative was proposed in 2000 between Sawre Hill and Sankaber, thereby shortening the current road and avoiding cutting through important sections of Erica woodland and Walya habitat (cf. map in back folder, and Hurni and Ludi, 2000b).



**Figure 36:** Dabiya Kidis Yared Church (2980 m asl) with careful wood carvings.



**Figure 37:** Mr. Ayenew Yewhalaw a local farmer in Dabiya, constructed his own terraces after land certification had guaranteed him long-term use of his land.

***Recommendation for the Debark – Sankaber road section:***

*The Regional Road Authority should be mandated to construct a new and shorter road section, as designed in 2000, and to close the existing section along the edge of the escarpment (see map). A special component with a GEF assistance project should be initiated to revegetate the current road with indigenous trees and grasses (see Chapter 4 below).*

**b. Alternative road to Mekane Birhan**

The possibility of replacing the Chennek - Bwahit section of the current road, which constitutes a very important Walya habitat, with an alternative access road to Mekane Birhan, leading from Sawre Hills near Debark to Beles Village (in the Belegez Valley, at 2000 m) and onwards to Inchetkab Village and to the town of Mekane Birhan, should be studied. This alternative access would allow integration of the Shewada Area, which has an important traditional irrigation system, with the markets of Debark and Mekane Birhan (see map).





**Figure 38:** Panoramic view (about 90°) from Chiwa Mountain (3000 m asl) in Tellem, towards the Aber Mountain of the Simen massif, as well as some lowland areas towards Tigray in the northeast.

***Recommendation for an alternative road alignment to Mekane Birhan:***

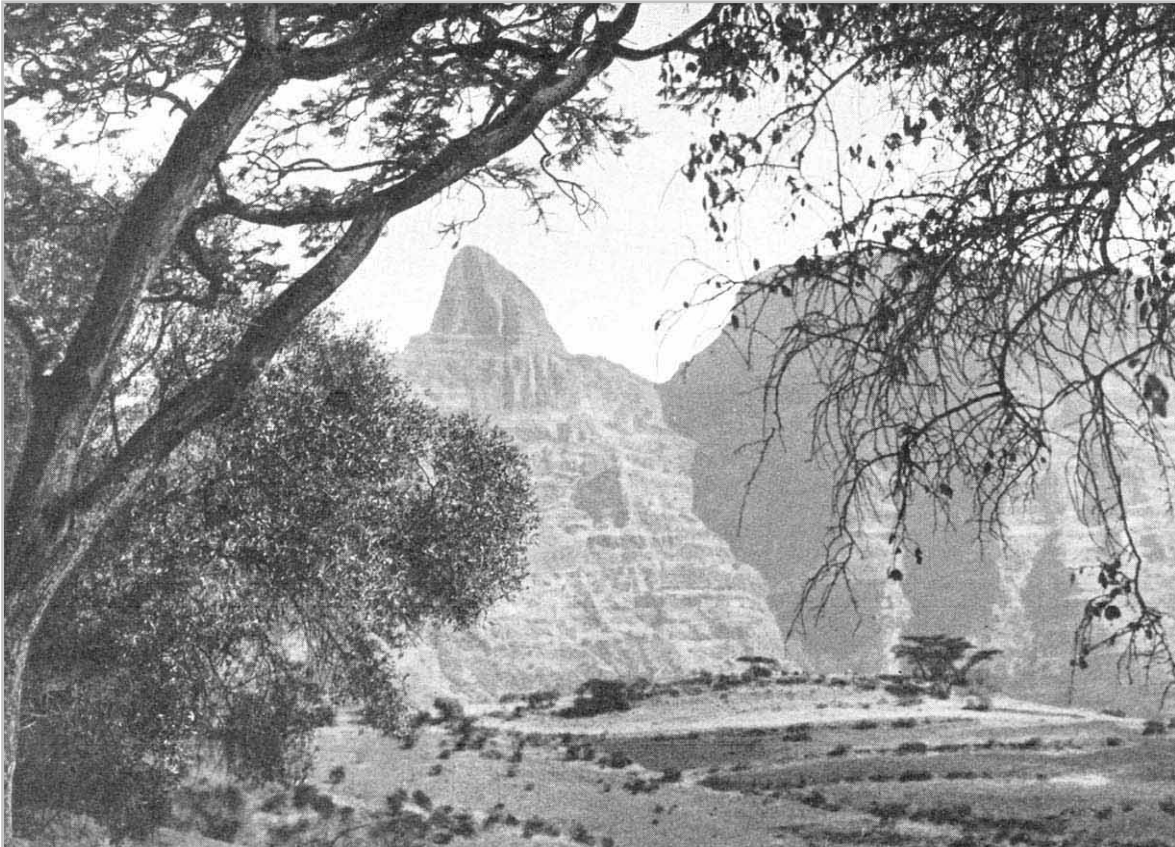
*The Regional Road Authority should be mandated to study an alternative access to Mekane Birhan through Belegez Valley up to Inchetkab Village, which would completely avoid traversing the SMNP. Partial support through a GEF component should be sought.*

**c. Road access to Beyeda Wereda**

Dilyibza, the capital of Beyeda Wereda, could only be reached by constructing a new road, which should be initiated from the current road on the pass between Bwahit and Mesarerya Mountains (at 4200 m). From there, it would cut into Mesheha Valley towards Amdir Village (thereby avoiding the Arkwasiye Village area, which is important as a wildlife corridor), and, after crossing Mesheha River at 2900 m asl, onwards through the village of Mikana, up to Ras Dejen Pass at 4200 m and down to Dilyibza Town (see map). Provided that the Inchetkab alternative (see b.) can be constructed, there may be no need for a tunnel at Bwahit Pass.

***Recommendation for access road to Beyeda Wereda:***

*The Regional Road Authority should be mandated to do a detailed alignment study for the construction of an access road to Beyeda Wereda. The Parks Development and*

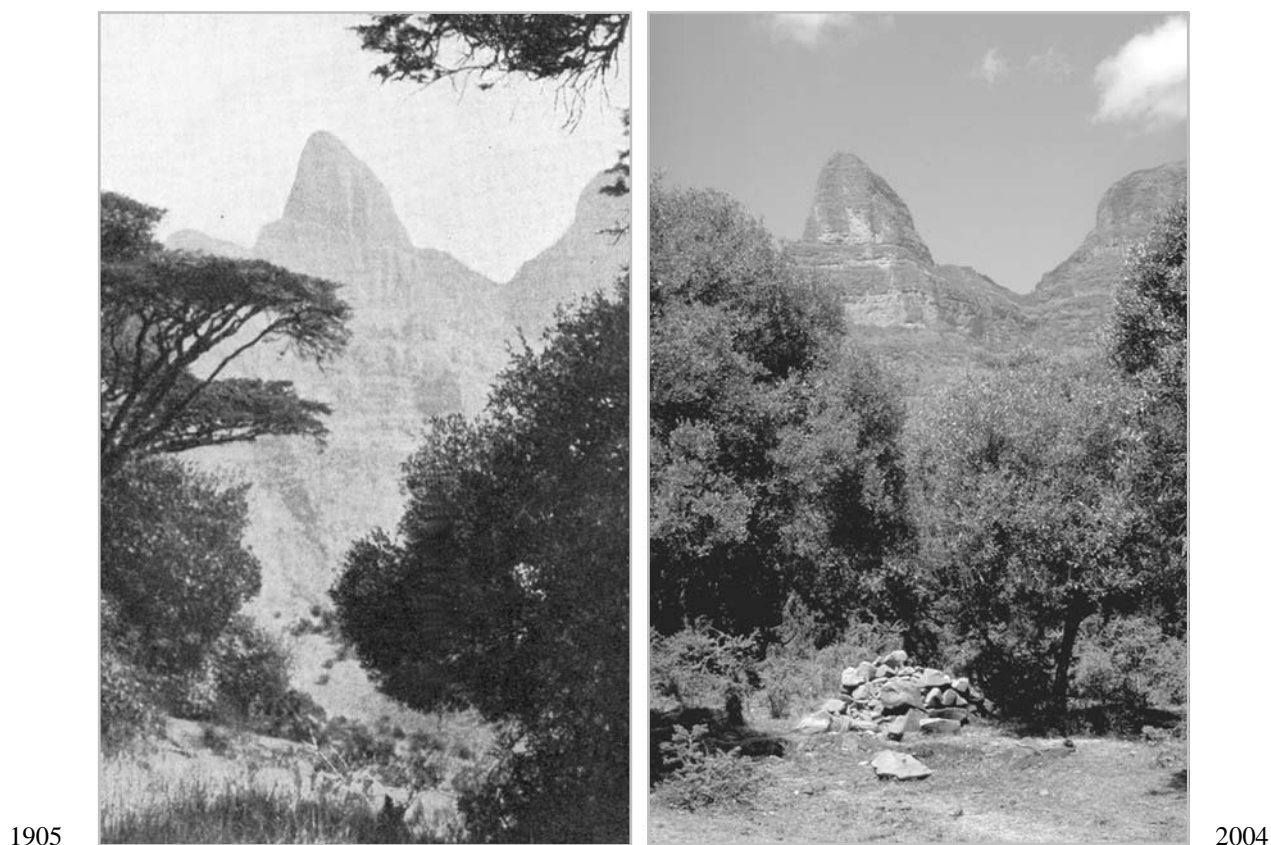


1905



2004

**Figure 39:** Comparative view of the Aber Mountains from Zej Maryam Church grove. Above is a photograph taken by F. Rosen in April 1905 (Rosen, 1907, pp. 457). Visible changes by 2004 are explained in the text on page 16.



**Figure 40:** Comparative view of the Aber Mountains from Zej Maryam Church grove. On the left a photograph taken by F. Rosen in April 1905 (Rosen, 1907, pp. 456)

*Protection Authority should be consulted on such a study before a decision about construction is taken. Partial support through a GEF component may be feasible.*

**d. Road access to Tellem**

While Adigrad Town and the Aber Mountains may be accessed directly from Adi Arkay via Degaro, this will be extremely difficult for Adimihret Village and Gilbena Town. These towns are located in the Ateba and Bembiya Valleys, and may thus more easily be accessed from Region 1 (Tekeze Dam Site and/or Fiyel Wuha Town) in the long term.

***Recommendation on road access to Tellem:***

*More detailed studies are needed and should be initiated, including negotiations between Amhara and Tigray Regions.*



**Figure 41:** Comparative view from Zej Maryam Church Grove. On the left a photograph taken by F. Rosen in April 1905 (Rosen, 1907, pp. 459). Note the development of the village in the middle ground since then.

### 3.2 Trail improvements

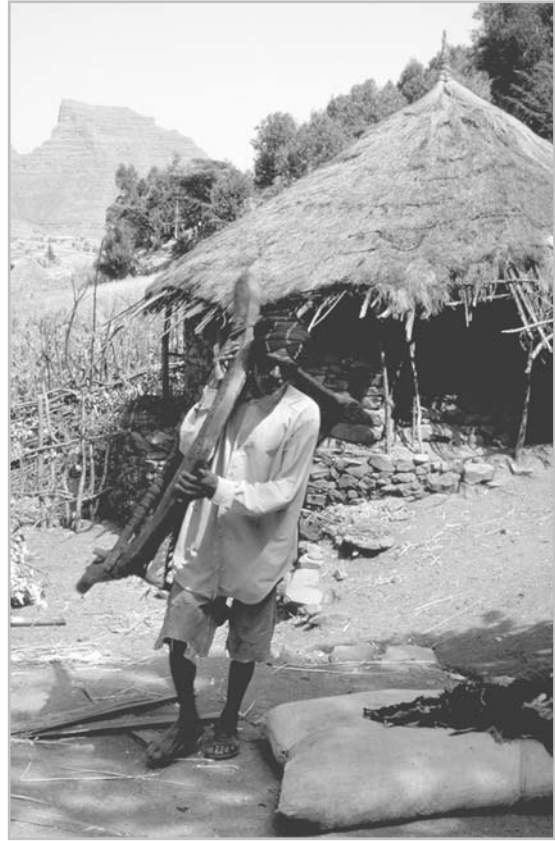
The Weredas of Debark, Janamora and Adi Arkay should follow the example of Beyeda Wereda, which has already improved the most important trails between its Kebele Associations. Transport of goods on horse- and mule-back is now greatly facilitated, and some trails can even be used by motorcycles. The need to cross numerous streams and rivers remains a challenge. Here, simple dry masonry technology, as used in many mountain regions worldwide, could be applied, or alternatively, culverts or even suspended bridges could be used for cars weighing not more than 5000 kg.

#### *Recommendation for local trail improvements:*

*Continue and expand local trail improvements by Kebeles in all Weredas. Support efforts by assigning more technical staff to Kebeles, and by introducing bridge construction technology. Eventual support by foreign assistance could be sought (non-GEF component).*

### 3.3 Soil and water conservation

Soil and water conservation (SWC) constitutes an indispensable component of sustainable management of natural resources in a mountain region like Simen, which is predominantly cultivated and has been subject to severe soil degradation by water



**Figure 42:** Mr. Birrara Aytegeb, a local farmer in Zej Village on the foot of Mount Aber, preparing seating for his guests.

erosion since agriculture was initiated many generations ago. The author was extremely impressed by achievements in SWC made in recent years, when stone and soil bunds have been introduced in many parts of the four Weredas. This was done primarily on cultivated lands where soil degradation could be seen most prominently. Cut-off drains, which were also used to divert runoff, and check dam construction in gullies may require more emphasis. Despite the benefits of Food-for-Work (FFW), the author was extremely impressed by the new approach on certified land, which requires that farmers safeguard their soil and vegetation resources, including regular evaluation of achievement and effectiveness. In general, the soil and water conservation technologies used so far have been limited to three measures: level soil and stone bunds, cut-off drains, and check dams. However, there are at least 18 technologies adapted to Ethiopian conditions (cf. Hurni, 1995), which should also be proposed to farmers as a set of measures adapted to their agro-ecological conditions.

***Recommendations for soil and water conservation (SWC):***

1. *In relation to SWC technologies, specific training and guidelines may be given to development agents for their negotiations with farmers in specific agro-ecological locations and farming systems. The “Guidelines for Development Agents on Soil Conservation in Ethiopia” (Hurni, 1995) may serve as a training tool.*



**Figure 43:** Panoramic view (about 90°) of the highlands (3200 m asl) around Abera Village and southwards towards the Silki Mountains. Note the high level of soil degradation persistent virtually everywhere in the Simen Mountains above about 3000 m asl.

2. *In relation to SWC approaches, Food-for-Work (FFW) should only be used for communal works (such as gully control, trail improvement, or road construction), while individual farmers should carry out SWC measures on their individual, cultivated land, to be certified according to the land certification process. Food aid should be used exclusively in situations of food shortage, in order not to create or further the “food dependency syndrome”.*
3. *With regard to SWC on cultivated sloping land without visible soil degradation, great care should be taken not to overlook such land. Current soil erosion is often highest on this land use type, and measures are needed as urgently as on heavily degraded lands. This particularly concerns black soil areas above 3500 m asl, up to 3900 m asl, which have been cultivated more recently (i.e. for the past 100-200 years); cf. reddish pattern on satellite photo, visible between about 3500 and 3900 m asl.*

### 3.4 Water development

Commendable efforts have been made in Simen to further spring development (at least in the vicinity of all schools and clinics), to promote pond development (with varying success), and to develop roof catchments (health risk problems).



**Figure 44:** View from the highlands (3200 m asl) around Abera Village towards the Aber Mountains (3653 m asl) in the northeast. Note again the highly degraded opposite slope, which is irreversibly lost to crop production.

***Recommendations for water development:***

1. *Spring development should be advanced further, with the technology at hand. Clean water is a basic human right and a precondition for reducing or avoiding a series of intestinal diseases, particularly with children.*
2. *Pond development may be a promising technology, but it needs to be locally tested and adapted. Almost all ponds visited on the author's journey did not fully satisfy their users, and were simply non-adapted in some places. The cost-benefit ratio might be less favourable than that for spring development, and the water should by no means be used for drinking purposes.*
3. *Roof catchments, finally, are often used for drinking water without filtering, and local users assume that roof water is as safe as spring water. This is a great hazard that should be communicated. Bird excrement directly transfers infectious diseases to humans through the roof catchments. Filtering this water in simple sand filters is an indispensable component of this technology.*

### **3.5 Nature conservation**

During the author's field expedition it was interesting to note that environmental change in relation to forest cover change was much less pronounced than anticipated. Most forested areas, which had been mapped from aerial photos made in the 1960s, were still in place, and farmers in different Kebeles reported that these forests were protected by the local communities and used only for the collection of grass, firewood





**Figure 45:** Panoramic view (about 90°) from the highlands above Wemberge Village into Buya Valley towards the west.

and construction wood. A comparison of forest and tree cover with photos taken during the Rosen expedition in April 1905, nearly 100 years ago, shows that some forests have nevertheless disappeared, while others have developed even higher up since then, due to global warming. A closer look at some forested areas, nevertheless, showed that most of them are currently overused. Substitution with *Eucalyptus* plantations is only taking place slowly, as farmers hesitate to use planted trees for their own firewood consumption.

A more pronounced environmental change was observed in relation to cultivated land and grassland, with a considerable extension of the former at the expense of the latter. After the mid-1980s, many steep slopes were changed into cultivated land, which will degrade very rapidly due to accelerated soil erosion. At the same time, the heavily reduced grazing areas were also degrading at an accelerated pace due to lack of space.

Wildlife habitats, finally, were confined to forest land, grassland above the tree line at about 3800 m, and rocky areas in the Simen Mountains, and hence also shrank to limited 'island' areas apparent at present. And what is more, wildlife was long considered a 'free' resource, available to everyone. For example, according to Prof. Nievergelt, antelopes like the greater Kudu (and/or possibly the Eland as well) were extinct several decades ago, and the Walya ibex survived only in a small area in Simen, while other suitable habitats were exhaustively used for hunting. Re-introducing wildlife into their former habitats will thus require negotiation and full agreement by the concerned Kebeles, as these areas should have only limited human and livestock



**Figure 46:** A comparative view of Buya Valley from the western slope of Beroch Wuha Mountain. In the 1905 photograph (left) by F. Rosen (1907, pp. 451), no forests can be detected in the background around Wemberge Village, whereas today there is considerable forest there. There might be a problem of quality of the photograph by Rosen, however.

1905



2004

interference in order to avoid the transmission of diseases, unlike what is currently the case with the Walya ibex in the Bwahit - Mesarerya area.

The author's recommendations for nature conservation below are confined to the wider Simen area, while the report of Dr. Eva Ludi's team will cover conservation and development inside and surrounding the Simen Mountains National Park.

***Recommendations for natural resources:***

1. *The promotion of eucalyptus as a substitute for indigenous firewood and construction wood should be further promoted at all levels: Kebele Associations, schools, and individual households. Training of households in the use of eucalyptus trees as a substitute of indigenous trees should accompany this measure.*
2. *On conserved cultivated land, agricultural development, i.e. the use of manure, compost and mineral fertilizers, and the introduction of higher-yielding crops, should be promoted, including the improvement of ponds and springs to be used for irrigation and gardening.*



1905



2004

**Figure 47:** Above Kosso Village towards Silki Mountains, natural regrowth of *Erica arborea* can be discerned in comparisons of photographs by F. Rosen (top) in April 1905 (Rosen, 1907, pp. 455) and today (bottom). This is probably due to global warming during the past 40 years pushing the upper tree line by 100-200 m higher up, now reaching 3850 m asl.

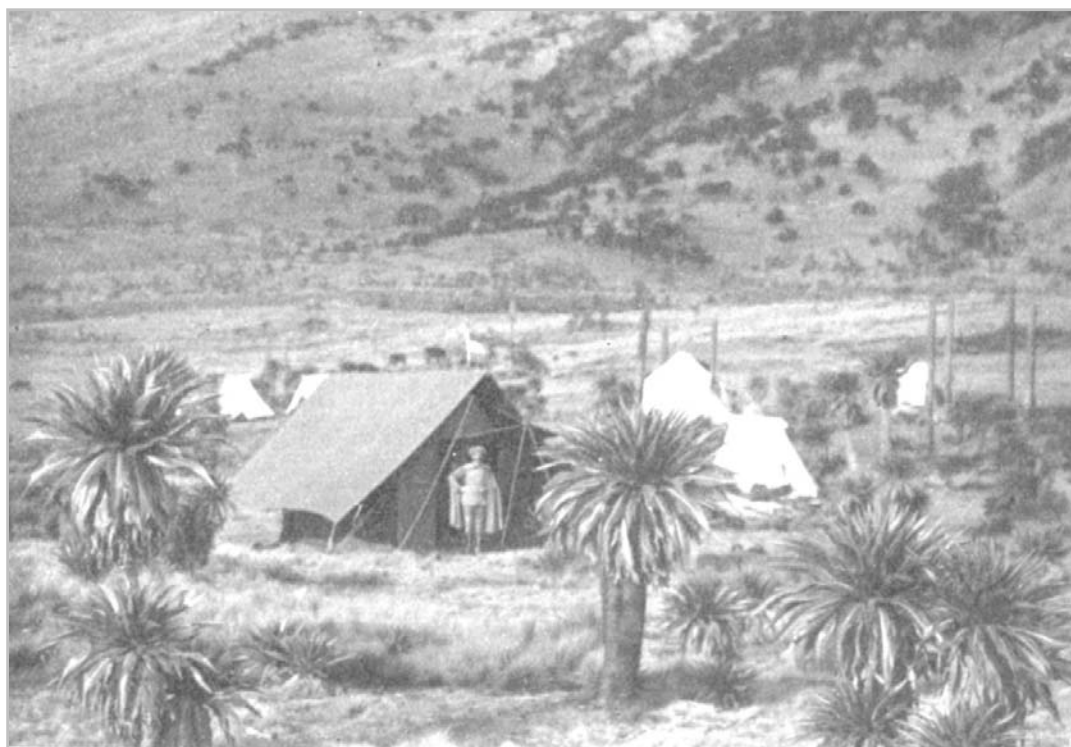


1905



2004

**Figure 48:** Another comparative view from Silki Pass towards Walya Kend Mountain in the East. In the 1905 photograph by F. Rosen (Rosen, 1907, pp. 453), once again no forests can be detected in the foreground. Here as well, global warming during the past 40 years has had a visible impact in raising the tree line. The altitude of the photographs is 3800 m asl.



1905

**Figure 49:** Comparative view of the western slope of Beroch Wuha Mountain, where all Erica trees have disappeared since the Rosen expedition camped here in 1905 (Rosen, 1907, pp. 448). The proximity of villages, including Arkwasiye, induced this destruction.

3. *With regard to grazing land, private allocation and grassland improvement with forage species as well as “cut and carry” techniques should be promoted at all levels.*

The author’s recommendations for nature conservation below are confined to the wider Simen area, while the report of Dr. Eva Ludi’s team will cover conservation and development inside and surrounding the Simen Mountains National Park.

***Recommendations for wildlife conservation:***

1. *In order to open up the important wildlife corridor between Bwahit and Beroch Wuha / Silki, the author urges Janamora Wereda to relocate the newly-established town of Arkwasiye about 2 kilometres to the east, on a flat place in Mesheha Valley near Dibil Village. All houses in the current location should be removed from Arkwasiye. Partial support through a GEF component should be feasible.*
2. *Concerned Kebele Associations in the Silki / Abba Yared / Kidis Yared / Lich / Hay areas in Janamora, Adi Arkay and Beyeda Weredas should be contacted by their authorities with a view to safeguarding existing forests and grazing areas above their villages, including the mountain cliffs. Provided that the concerned Kebele Associations agree to offer such natural areas as Walya habitats, external assistance should be sought to facilitate development, including*

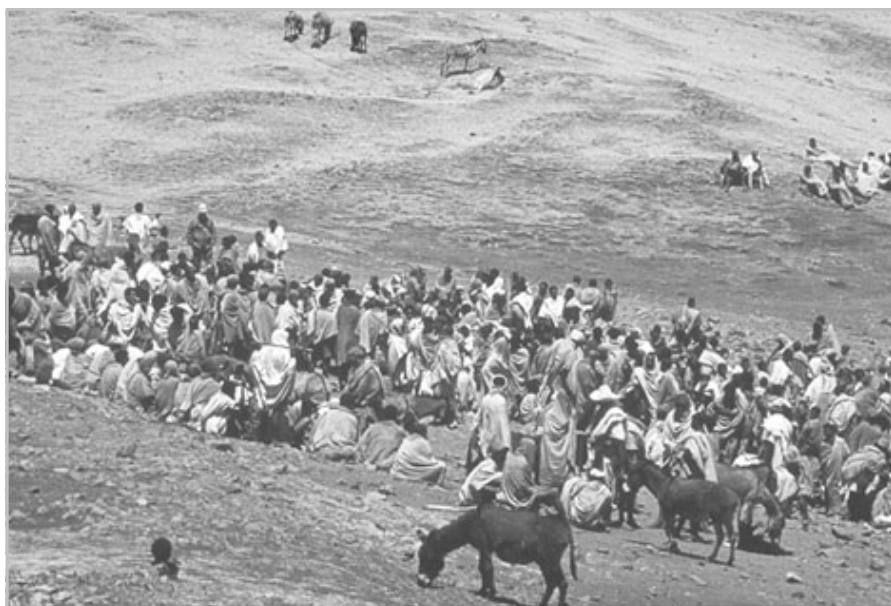


2004

*opportunities for tourism, and to re-introduce Walya ibexes to these areas. The wildlife corridor through Arkwasiye may even facilitate natural movement of ibexes to these areas, because the Bwahit area is overpopulated with ibexes, and Walya are dying. Vitally important resources such as space and nutrition are not at the required levels for the current density of the animal population. Partial support through a GEF component could be sought.*

3. *Other wildlife areas concerned are habitats for the Ethiopian wolf (Simen fox), mostly situated above about 3800 m, where there is no more cultivated land. Here, it would be important to educate concerned populations not to hunt these animals (for use of their liver), while the habitat area is still sufficiently large (all mountain grass lands around the highest mountains).*
4. *Reintroduction of other ungulates like bushbuck, Greater Kudu and Eland could also be envisaged in the future. Here, external support would be needed, while local Kebeles would have to agree to respect the existence of these animals.*
5. *As mentioned, this report does not cover issues related to management and human land use inside the Simen Mountains National Park (see Ludi, 2005).*





**Figure 50:** A comparative view of Arkwasiye Village, first in 1976 by R. Nāgeli, when there was an open market place but no houses; second in 1994 by G. Schwilch, with houses established since 1985, and third in 2004. The current settlement now interrupts an important wildlife corridor and prevents Walya ibexes from moving to the Silki area.

1976



1994



2004



1994

**Figure 51:** Gich Plateau inside the National Park seen from a helicopter (1994) above Wezahila, and looking towards Gidir Got in the west. Note the extreme soil degradation to the extent that agricultural yields are greatly reduced.  $^{14}\text{C}$  dating gave an agricultural age of about 450-600 years for this location.

### 3.6 Education and health

As mentioned in his impressions along the expedition route (Chapter 2.) the author was very positively surprised by the outstanding actions taken by all Weredas visited, particularly Beyeda Wereda, and the overall achievements attained so far. Education and health are the most important components of sustainable development, as the next generation will develop a different approach towards using natural resources wisely and productively. It will be important to enrol all children in schools, and to provide sufficient support to teachers so that they can function as catalysts for development.

#### ***Recommendations for education and health development:***

1. *Continue investing in good health and education facilities in all Weredas by establishing infrastructure in all Kebele Associations.*
2. *Take care that employees in schools and clinics are well-supported and offered opportunities for their own professional advancement.*

## 4 Conclusions

During the author's one month field expedition to the Weredas of Janamora, Beyeda, Adi Arkay (Tellem part) and Debark in October and November 2004, he was able to re-visit major parts of the Simen Mountains that he had previously visited in 1974, 1976, and 1993. During this period the human population more than doubled. This can be clearly observed in the number of houses, which has grown enormously, cultivated land that has expanded onto slopes with gradients of 80% and more, grazing areas near villages that are heavily overgrazed and degraded, and soil degradation that has expanded further and accelerated on cultivated and grazing lands.

On the other hand, the author observed a great number of positive developments, such as the development of centres, schools, clinics and springs in all major villages and Kebele Associations in Simen in just the last few years. In addition, numerous stone and soil bunds and terraces have been constructed on cultivated land, many degradation sites reforested with eucalyptus, and natural trees protected, allowing them to regenerate. These vital signs of decentralised rural development, as induced by the current administration and government, are very stimulating and highly encouraging. Provided that school children are well guided and educated, they will learn about hygiene and sustainable management of natural resources, and thus contribute by themselves to improving their lives in this remote mountain area in future. The Simen Mountains have the potential to feed a healthy local population, although perhaps not at the current level of population density, and the potential to attract both national and



international tourists, due to the great value of Simen as a natural and cultural heritage site.

Special efforts are still needed by the regional government to provide road access to remote areas, particularly the Beyeda Wereda and Tellem area in Adi Arkay Wereda, thereby enhancing current efforts of local trail construction. International assistance could be sought from the Global Environment Facility (GEF) to assist in safeguarding global biodiversity, represented by the Walya ibex and other fauna and flora.

In particular, a GEF application should include:

1. *Shortening and re-alignment of the current road section from Debark to Sankaber;*
2. *Study of alternative access to Mekane Birhan from Debark, through Beles Valley and Inchetkab Village;*
3. *Study of a detailed alignment of the road from the Bwahit / Mesarerya mountains to Beyeda Wereda, avoiding Arkwasiye Town;*
4. *Relocation of Arkwasiye to open up one important wildlife corridor;*
5. *Support for local Kebele Associations offering habitats for Walya ibexes and other wildlife in their areas;*
6. *Provision for additional relocation of people from heavily degraded mountain sites, and*

7. *Support for better management of conservation and development in the Simen Mountains National Park and World Heritage Site (according to the forthcoming report by Dr Eva Ludi).*

Such a project proposal to GEF is probably beyond the direct responsibility of the regional government and may thus have to be taken up directly by the Environmental Protection Authority (EPA) at the national level, EPA being the focal point for GEF projects in Ethiopia.

In conclusion, the author would like to thank all the persons he had an opportunity to meet in connection with this unique opportunity, both in preparation for and during his visit to such a stimulating and invigorating area with so many opportunities for sustainable development, despite its current problems and needs.

## References

- Hurni H. 1982. *Climate and the dynamics of altitudinal belts from the last cold period to the present day*. Geographica Bernensia G13, Berne, 196 pp. plus 3 maps.
- Hurni, H. 1995: Guidelines for development agents on soil conservation in Ethiopia. Centre for Development and Environment (CDE), Berne, 100 pp.
- Hurni H. and E. Ludi. 2000a. *Reconciling conservation with sustainable development. A participatory study inside and around the Simen Mountains National Park, Ethiopia*. Produced with the assistance of an interdisciplinary group of contributors. Centre for Development and Environment, Berne, ISBN 3-906151-44-1, 476 pp.
- Hurni H. and E. Ludi. 2000b. *High-level fact-finding mission by the Amhara Regional Government to the Simen Mountains National Park and its surrounding rural areas*. ESAPP Programme, Centre for Development and Environment (CDE), Berne, 13 pp.
- Kaeppli M. 1998. Regeneration and age structure of relict ericaceous forests: a dendrochronological study near the timberline in the Simen Mountains, Ethiopia. Unpublished diploma thesis. Institute of Geography, University of Berne, 127 pp.
- Kirwan LP. 1972. *The Christian topography and the kingdom of Axum*. Geographical Journal 138, pp. 166-177
- Ludi E. 2005 (forthcoming). Simen Mountains Study 2004. Intermediate Report on the 2004 Field Expedition. NCCR dialogue. NCCR North-South. CDE, Berne and swisspeace, Berne.
- Nievergelt B. (ed.) 1998. A survey of the flora and fauna of the Simen Mountains National Park, Ethiopia. Pano - Verlag, Zürich, 109 pp.
- Rosen F. 1907. *Eine deutsche Gesandtschaft in Abessinien*. Verlag von Veit, Leipzig, 496 pp.
- Shiferaw W/Tsadik, Basazenew Bogale and Kendaya Mesele. 2004. *Field report on the health conditions of Walya ibex in Simen Mountains National Park (in Amharic)*. Simen Mountains National Park Office, Debark (translated by Berhanu Gebre).

## List of Persons Contacted

1. *H.E. Addisu Legesse, Deputy Prime Minister, Addis Abeba*
2. *H.E. Yosef Retta, former President, GANRS, Bahr Dar*
3. *H.E. Mesfin Abebe, Prof. Dr., Deputy Prime Minister's office, Addis Abeba*
4. *H.E. Tekalign Mamo, Prof. Dr., Minister of Natural Resources, Addis Abeba*

Additional persons contacted (alphabetically, by main name):

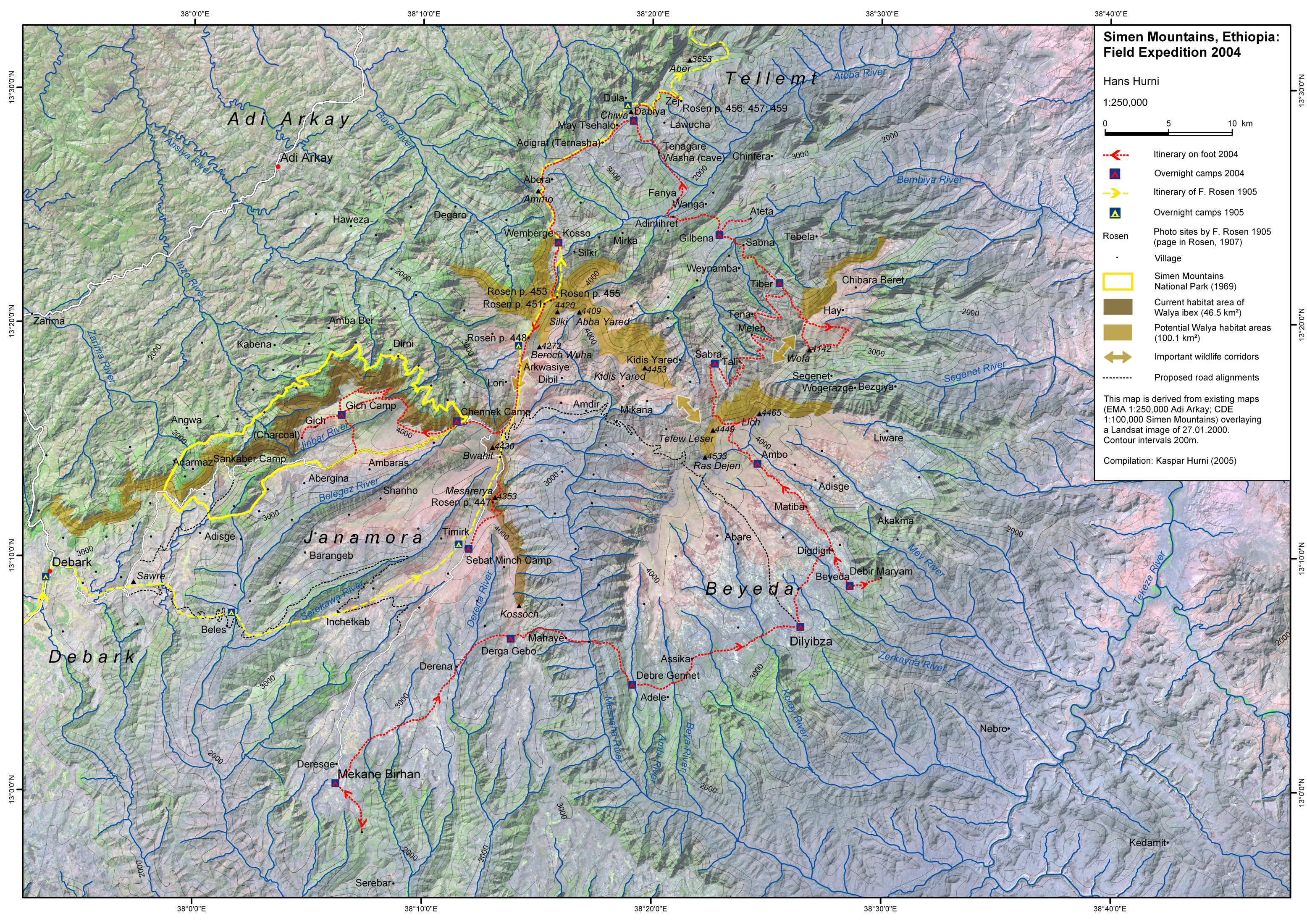
- **Aberra**, Kebele Chairman, Gilbena
- **Abuhay Arega**, farmer, Dabiya Village
- **Addis Melkie**, Beyeda Wereda Council Member, Dilyibza
- **Admassu Ishetu**, MSc student Alemaya, Gonder
- **Alebachew Mamo**, MSc student, Mekelle
- **Alemayehu Assefa**, Dr., ARARI, Sheno
- **Amare Bantider**, PhD student, Addis Abeba
- **Aynew Yewhala**, farmer, Dabiya Village
- **Berhanu Debele**, RCO, NCCR North-South, Addis Abeba
- **Berhanu Gebre Mohammed**, MSc student, Dublin University College
- **Katrin Bircher**, SMS team, Gich Camp
- **Birrara Aytegeb**, farmer, Dabiya Village
- **Birru Yitaferu**, PhD student, Addis Abeba
- **Bisrat Kebede**, SMNP expert, Debark
- **Bosena Tegegne**, SMS team, Gich Camp
- **Marcel Budmiger**, SMS team, Gich Camp
- **Chekole Mengistu**, Kebele Chairman, Sabra Village
- **Daniel Danano**, MoARD, Addis Abeba
- **Derebe Deksiyos**, SMNP expert, Debark
- **Enyew Adgo**, Dr., ARARI, Bahr Dar
- **Fantaye Chehote**, farmer, Kosso Village
- **Fasil Ayehu**, Tourism Commissioner, Bahr Dar
- **Gelaye Tsega**, Debark
- **Andreas Gerrits**, SDC, Berne
- **Getachew Alemayehu**, Dr., ARARI, Bahr Dar
- **Gete Zeleke**, Dr., Addis Abeba
- **Getinet Akalu**, Walya Guide Association, Debark
- **Getinet Tsegay**, Beyeda Wereda Administrator
- **Girmachew Siraw**, SMS team, Gich Camp
- **Gizaw Desta**, ARARI, Sheno
- **Julia Grünenfelder**, SMS team, Gich Camp
- **Honelign Sahlu**, Janamora Wereda Administrator, Mekane Birhan
- **Kebede Worku**, AZULMA NGO, Addis Abeba
- **Leykun Abune**, PCU IDP, Gonder

- Eva **Ludi**, Dr., SMS team leader, Berne
- **Melaku** Aberra, Abeminnet of Debir Maryam Monastery, Debir Maryam
- **Mengesha** Zewdu, SMS manager, Gonder
- **Mesfin** Haile Mariam, Prof. em., Addis Abeba
- **Mulugeta** Amha, ESTC Commissioner, Addis Abeba
- **Mulugeta** Tesfaye, Bahr Dar University, Bahr Dar
- **Mulugeta** Woubshet, Parks Authority, Bahr Dar
- Bernhard **Nievergelt**, Prof. em., Walya ibex specialist, Zürich
- **Nurhussen** Taha, Dr., Mekelle University, Mekelle
- Jan **Nyssen**, Dr., Mekelle University, Mekelle
- H.E. René **Schätti**, Swiss Ambassador, Addis Abeba
- Regula **Schild**, SMS team, Gich Camp
- **Setagew** Mesfin, farmer, Beyeda Village
- **Solomon** Abegaz, SMS team, Gich Camp
- Michael **Walter**, SMS team, Gich Camp

Plus:

- Supporting Staff, Simen Mountains Study, Gich Camp
- SMNP staff, Debark and National Park
- SCRП staff (Mr. Amare and team), Andit Tid Village
- SCRП staff (Mr. Ali Ahmed and team), Maybar





# Simen Mountains, Ethiopia: Field Expedition 2004

Hans Hurni

1:250,000

0

5

10 km

Itinerary on foot 2004

Overnight camps 2004

Itinerary of F. Rosen 1905

Overnight camps 1905

Rosen

Photo sites by F. Rosen 1905  
(page in Rosen, 1907)

Village

Simen Mountains  
National Park (1969)

Current habitat area of  
Walya ibex (46.5 km<sup>2</sup>)

Potential Walya habitat areas  
(100.1 km<sup>2</sup>)

Important wildlife corridors

Proposed road alignments

This map is derived from existing maps  
(EMA 1:250,000 Adi Arkay; CDE  
1:100,000 Simen Mountains) overlaying  
a Landsat image of 27.01.2000.  
Contour intervals 200m.

Compilation: Kaspar Hurni (2005)